Listing of Claims:

1-35. **(Canceled)**

36. **(CURRENTLY AMENDED)** An integrated biosensor and simulation system comprising:

    at least one <u>implantable</u> biosensor for sensing a biological target to generate a signal; <u>and</u>

    a simulator for using the signal and a model of the target to generate a therapeutic or diagnostic output; [[and]]

    wherein said sensor is reconfigurable by said simulator<u>, such reconfiguration thereby reconfiguring a biocatalytic chip, a logic device, a tissue scaffold, a therapeutic reservoir, or a DNA microarray.</u>

37. **(Previously presented)** The system of claim 36 wherein: the sensor senses a food material for consumption by the biological target to generate a second signal, the simulator further using the second signal to generate the therapeutic or diagnostic output.

38. **(Previously presented)** The system of claim 36 wherein: the simulator generates the output according to a regulatory condition.

39. **(Previously presented)** The system of claim 36 wherein: the sensor couples to the simulator via a programmable switch.

40. **(CURRENTLY AMENDED)** A method comprising the steps of:

    sensing with a<u>n implantable</u> biosensor a biological target to generate a signal; <u>and</u>

    simulating with a simulator using the signal and a model of the target to generate a therapeutic or diagnostic output; [[and]] wherein said simulator

reconfigures said biosensor, such reconfiguration thereby reconfiguring a
biocatalytic chip, a logic device, a tissue scaffold, a therapeutic reservoir, or a DNA
microarray.

41. **(Previously presented)** The method of claim 40 wherein: the sensor senses a food
material for consumption by the biological target to generate a second signal, the
simulator further using the second signal to generate the therapeutic or diagnostic
output.

42. **(Previously presented)** The method of claim 40 wherein: the simulator generates
the output according to a regulatory condition.

43. **(Previously presented)** The method of claim 40 wherein: the sensor couples to the
simulator via a programmable switch.

44. **(Previously presented)** The method of claim 40, wherein said sensor is implanted
in a subject's mouth, larynx, blood vessel, vein, nose, ear, eye, heart, brain, lymph
node, lung, breast, stomach, pancreas, kidney, colon, rectum, ovary, uterus, bladder
or prostate.

45. **(Previously presented)** The method of claim 40, wherein said biosensor comprises
an array of at least two sensors.

46. **(Previously presented)** The method of claim 45, wherein said at least two sensors
are capable of sensing two different biological targets.

47. **(Previously presented)** The method of claim 46, wherein said different biological
targets are selected from a group consisting of DNA, RNA, peptide, antibody,
antigen, tissue factor, virus, lipid, fatty acid, steroid, neurotransmitter,
carbohydrate, free radical, neural, chemical, metabolite and cell.

48. **(Previously presented)** The method of claim 40, wherein said reconfiguring comprises activating or deactivating said biosensor.

49. **(Previously presented)** The method of claim 45, wherein said reconfiguring comprises activating or deactivating at least one of said at least two sensors.

50. **(Withdrawn)**

51. **(Previously presented)** The system of claim 36, wherein said simulator is capable of activating or deactivating said sensor.

52. **(Previously presented)** The system of claim 36, wherein said sensor is capable of functioning in a subject's mouth, larynx, blood vessel, vein, nose, ear, eye, heart, brain, lymph node, lung, breast, stomach, pancreas, kidney, colon, rectum, ovary, uterus, bladder or prostate.

53. **(Previously presented)** The system of claim 36, wherein said biosensor comprises said at least one sensor and at least a second sensor.

54. **(Previously presented)** The system of claim 53, wherein said at least one sensor and said at least second sensor are capable of sensing two different biological targets.

55. **(Previously presented)** The systems of claim 54, wherein said different biological targets are selected from a group consisting of DNA, RNA, peptide, antibody, antigen, tissue factor, virus, lipid, fatty acid, steroid, neurotransmitter, carbohydrate, free radical, neural, chemical, metabolite and cell.